

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for a network management system to identify active and standby states of plural routers within a virtual router in a network comprising:

obtaining first information from a first router and a second router of a virtual router, the first information comprising group priority information and group standby state information;

using the first information to determine the active and standby states within the virtual router, the standby state designating a redundant router; and

producing a topology of the network identifying the active and standby states to display the health of the virtual router at the network management system based on the obtained first information.

2. (Original) The method of claim 1, comprising:
monitoring messages in the network;
using second information from the messages to determine whether there are changes to the health of the virtual router; and
updating, if there are changes in the health of the virtual router, the topology to reflect the changes in the health of the virtual router.

3. (Original) The method of claim 1, comprising:
obtaining the first information from a router of a plurality of virtual routers,
wherein the topology identifies the health of the plurality of virtual routers.
4. (Original) The method of claim 1, wherein the first information is group
priority information and group standby state information for each of the first and
second routers.
5. (Original) The method of claim 1, wherein the first and second routers
operate according to a virtual swappable router protocol.
6. (Currently Amended) A method for a network management system to
identify active and standby states of plural routers within a virtual router in a network
comprising:
obtaining first information from a first router and a second router in the
network, the first information comprising group priority information and group standby
state information;
determining, based on the first information, whether the first and second
routers comprise a virtual router;
using the first information to determine the active and standby states within
the virtual router if the first and second routers comprise a virtual router, the standby
state designating a redundant router; and

producing a topology of the network identifying the active and standby states to display the health of the virtual router at the network management system based on the obtained first information.

7. (Original) The method of claim 6, comprising:
monitoring messages in the network;
using second information from the messages to determine whether there are changes to the health of the virtual router; and
updating, if there are changes in the health of the virtual router, the topology to reflect the changes in the health of the virtual router.

8. (Original) The method of claim 6, wherein the first information is group priority information and group standby state information for each of the first and second routers.

9. (Original) The method of claim 6, wherein the first and second routers operate according to a virtual swappable router protocol.

10. (Currently Amended) A management computer for identifying active and standby states of plural routers within a virtual router in a network comprising:
a processor configured to obtain first information from a first router and a second router of a virtual router, and to use the first information to determine the active and standby states within the virtual router, the standby state designating a

redundant router, the first information comprising group priority information and group standby state information; and

a memory which stores the first information to produce a topology of the network identifying the active and standby states and display the health of the virtual router at the management computer based on the obtained first information.

11. (Original) The management computer of claim 10, wherein the processor is configured to monitor messages in the network, use second information from the messages to determine whether there are changes to the health of the virtual router, and update, if there are changes in the health of the virtual router, the topology to reflect the changes in the health of the virtual router.

12. (Original) The management computer of claim 10, wherein the processor is configured to obtain the first information from a router of a plurality of virtual routers, wherein the topology identifies the health of the plurality of virtual routers.

13. (Original) The management computer of claim 10, wherein the first information is group priority information and group standby state information for each of the first and second routers.

14. (Original) The management computer of claim 10, wherein the first and second routers operate according to a virtual swappable router protocol.

15. (Currently Amended) A management computer for identifying active and standby states of plural routers within a virtual router in a network comprising:

a processor configured to obtain first information from a first router and a second router in the network, to determine, based on the first information, whether the first and second routers comprise a virtual router, to use the first information to determine the active and standby states within the virtual router if the first and second routers comprise a virtual router, the standby state designating a redundant router, the first information comprising group priority information and group standby state information; and

a memory which stores the first information to produce a topology of the network identifying the active and standby states and display the health of the virtual router at the management computer based on the obtained first information.

16. (Original) The management computer of claim 15, wherein the processor is configured to monitor messages in the network, to use second information from the messages to determine whether there are changes to the health of the virtual router, and to update, if there are changes in the health of the virtual router, the topology to reflect the changes in the health of the virtual router.

17. (Original) The management computer of claim 15, wherein the first information is group priority information and group standby state information for each of the first and second routers.

18. (Original) The management computer of claim 15, wherein the first and second routers operate according to a virtual swappable router protocol.

19. (Currently Amended) A computer readable medium containing a computer program for performing a method for a network management system to identify active and standby states of plural routers within a virtual router in a network, the method comprising:

obtaining first information from a first router and a second router of a virtual router, the first information comprising group priority information and group standby state information;

using the first information to determine active and standby states within the virtual router, the standby state designating a redundant router; and

producing a topology of the network identifying the active and standby states to display the health of the virtual router at the network management system based on the obtained first information.

20. (Original) The method of claim 19, comprising:
monitoring messages in the network;
using second information from the messages to determine whether there are changes to the health of the virtual router; and
updating, if there are changes in the health of the virtual router, the topology to reflect the changes in the health of the virtual router.

21. (Original) The method of claim 19, comprising:

obtaining the first information from a routers of a plurality of virtual routers, wherein the topology identifies the health of the plurality of virtual routers.

22. (Original) The method of claim 19, wherein the first information is group priority information and group standby state information for each of the first and second routers.

23. (Original) The method of claim 19, wherein the first and second routers operate according to a virtual swappable router protocol.

24. (Currently Amended) A computer readable medium containing a computer program for performing a method for a network management system to identify active and standby states of plural routers within a virtual router in a network, the method comprising:

obtaining first information from a first router and a second router in the network, the first information comprising group priority information and group standby state information;

determining, based on the first information, whether the first and second routers comprise a virtual router;

using the first information to determine the active and standby states within the virtual router if the first and second routers comprise a virtual router, the standby state designating a redundant router; and

producing a topology of the network identifying the active and standby states to display the health of the virtual router at the network management system based on the obtained first information.

25. (Original) The method of claim 24, comprising:
monitoring messages in the network;
using second information from the messages to determine whether there are changes to the health of the virtual router; and
updating, if there are changes in the health of the virtual router, the topology to reflect the changes in the health of the virtual router.

26. (Original) The method of claim 24, wherein the first information is group priority information and group standby state information for each of the first and second routers.

27. (Original) The method of claim 24, wherein the first and second routers operate according to a virtual swappable router protocol.

28. (Currently Amended) A management computer for identifying active and standby states of plural routers within a virtual router in a network comprising:
means for processing to obtain first information from a first router and a second router of a virtual router, and to use the first information to determine the active and standby states within the virtual router, the standby state designating a

redundant router, the first information comprising group priority information and group standby state information; and

means for storing the first information to produce a topology of the network identifying the active and standby states and display the health of the virtual router at the management computer based on the obtained first information.

29. (Original) The management computer of claim 28, wherein the means for processing monitors messages in the network, uses second information from the messages to determine whether there are changes to the health of the virtual router, and updates, if there are changes in the health of the virtual router, the topology to reflect the changes in the health of the virtual router.

30. (Original) The management computer of claim 28, wherein the means for processing obtains the first information from a router of a plurality of virtual routers, wherein the topology identifies the health of the plurality of virtual routers.

31. (Original) The management computer of claim 28, wherein the first information is group priority information and group standby state information for each of the first and second routers.

32. (Original) The management computer of claim 28, wherein the first and second routers operate according to a virtual swappable router protocol.

33. (Currently Amended) A management computer for identifying active and standby states of plural routers within a virtual router in a network comprising:

means for processing to obtain first information from a first router and a second router in the network, to determine, based on the first information, whether the first and second routers comprise a virtual router, to use the first information to determine the active and standby states within the virtual router if the first and second routers comprise a virtual router, the standby state designating a redundant router, the first information comprising group priority information and group standby state information; and

means for storing the first information to produce a topology of the network identifying the active and standby states and display the health of the virtual router at the management computer based on the obtained first information.

34. (Original) The management computer of claim 33, wherein the means for processing monitors messages in the network, uses second information from the messages to determine whether there are changes to the health of the virtual router, and to updates, if there are changes in the health of the virtual router, the topology to reflect the changes in the health of the virtual router.

35. (Original) The management computer of claim 33, wherein the first information is group priority information and group standby state information for each of the first and second routers.

36. (Original) The management computer of claim 33, wherein the first and second routers operate according to a virtual swappable router protocol.